

ABSTRACT

A recombinator device and associated method for re-acidification of an electrolyte in a flowing electrolyte zinc-bromine battery. The recombinator device receives hydrogen, formed as a result of electrolysis within cell stacks of the zinc-bromine battery,

5 as well as aqueous bromine from the zinc-bromine battery. Upon receipt, the hydrogen and bromine are introduced into a reaction chamber in the recombinator device so as to form hydrobromic acid. The hydrobromic acid is then reintroduced back into the electrolyte of the zinc-bromine battery for re-acidification of same.